1   PILLSBURY WINTHROP SHAW PITTMAN LLP
    HEMANT KEETO SABHARWAL (*pro hac vice* admission to be sought)
2   1200 Seventeenth Street NW
    Washington, DC 20036-3006
3   Telephone: +1 (202) 663-8000
    Facsimile: +1 (202) 663-8007
4   E-mail: keeto.sabharwal@pillsburylaw.com

5
    KIRKE M. HASSON (CA State Bar No. 061446)
6   COLIN T. KEMP (CA State Bar No. 215408)
    Four Embarcadero Center, 22nd Floor
7   San Francisco, CA 94111-5998
    Telephone: +1 (415) 983-1000
8   Facsimile: +1 (415) 983-1200
    E-mail: kirke.hasson@pillsburylaw.com
9   E-mail: colin.kemp@pillsburylaw.com

10
    DAVID N. PATARIU (CA State Bar No. 270708)
11 401 Congress Avenue, Suite 1700
    Austin, TX 78701-3797
12 Telephone: +1 (512) 580-9600
    Facsimile: +1 (512) 270-7812
13 E-mail: david.patariu@pillsburylaw.com

14
15 *Attorneys for Plaintiff,*
    Space Data Corporation
16
                    IN THE UNITED STATES DISTRICT COURT
17   **FOR THE NORTHERN DISTRICT OF CALIFORNIA**
                          SAN JOSE DIVISION
18

19 SPACE DATA CORPORATION,	Case No.: 16-3260
20 Plaintiff,	**COMPLAINT FOR:**
21 v.	1. PATENT INFRINGEMENT UNDER 35 U.S.C. § 1 *et seq.*;
22 X, ALPHABET INC., and GOOGLE INC.,	2. MISAPPROPRIATION OF TRADE SECRETS UNDER 18 U.S.C. § 1836;
23 Defendants.	3. MISAPPROPRIATION OF TRADE SECRETS UNDER CALIFORNIA CIVIL CODE § 3426, *et seq.*; and
24	4. BREACH OF WRITTEN CONTRACT.
25	
26	**JURY TRIAL DEMANDED**

27

28
    SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
    PATENT INFRINGEMENT
                                                            4828-2761-2722

1   Plaintiff, SPACE DATA CORPORATION ("Space Data"), by way of its Complaint against

2 defendants, alleges as follows:

3   **NATURE OF THE ACTION**

4   1.   Space Data, a United States company founded in 1997, has developed an innovative

5 balloon-based telecommunications system to provide advanced messaging and other advanced

6 wireless telecommunications services across the United States on a nationwide basis.

7   2.   Space Data is primarily focused on providing wireless services. The Space Data

8 system utilizes inexpensive weather balloons to carry radio transceivers (SkySat™ and SkySite™)

9 to altitudes between 60,000 and 100,000 feet where they hover, far above commercial

10 aircraft. Space Data's balloon-borne system is one type of stratospheric high altitude

11 communications platform. A constellation of approximately 70 balloons can provide ubiquitous

12 wireless coverage in the continental United States for voice and data services.

13   3.   Space Data spent many years developing SkySat™ and SkySite™, amassing data to

14 make them work in the United States and on other continents for both military and commercial

15 applications. After applying for a patent in 1999, Space Data continued to innovate and develop its

16 proprietary technology in a continuing endeavor to adapt to the changing business and technology

17 environments.

18   4.   Defendants have launched what they call "Project Loon."   Project Loon is a

19 research and development project with the mission of providing wireless services. Project Loon

20 was allegedly developed by Alphabet Inc. ("Alphabet") subsidiary "X" (previously "Google X"), a

21 research and development entity that is a subsidiary of Alphabet. Like Space Data, Project Loon

22 uses high-altitude balloons placed in the stratosphere at an altitude of about 18 km (11 mi) to create

23 an aerial wireless network with up to 4G-LTE speeds (4G means the fourth generation of data

24 technology for cellular networks following 3G, the third generation; LTE stands for Long Term

25 Evolution and relates to a technical process for high-speed data for phones and other mobile
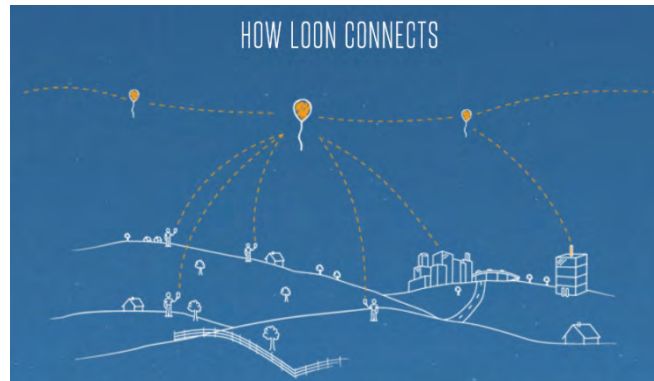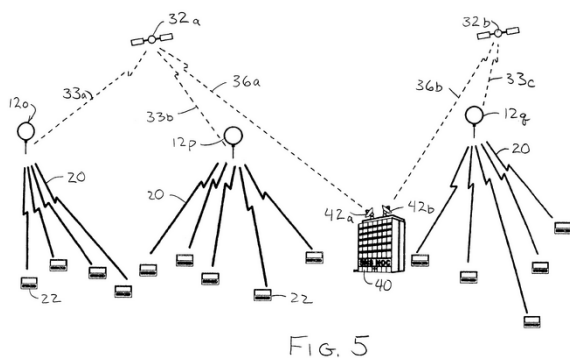
26 devices).

27

28
SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1

2

3

4

5

6

7

8 **Figure 1. From Space Data's U.S. Patent No. 6,628,941, showing a schematic depiction of platform communications links.**

Figure 2. From Project Loon's web site, showing a schematic depiction of platform communication links.

9

10   5.   As set forth in detail below, Project Loon improperly and unlawfully utilizes Space

11 Data's confidential information and trade secrets which Space Data disclosed to Defendant Google

12 pursuant to a 2007 Mutual Confidentiality and Non-Disclosure Agreement ("NDA"). Space Data

13 will further demonstrate that Project Loon infringes Space Data's patents. *See*, e.g., Fig. 1 and Fig.

14 2 above.

15   6.   Accordingly, Space Data files this Complaint for: (1) infringement of United States

16 Patent No. 6,628,941 titled "Airborne constellation of communications platforms and method" by

17 Knoblach et al., ("the '941 Patent"), and United States Patent No. 7,801,522 titled "Unmanned

18 lighter-than-air safe termination and recovery methods" by Knoblach et al., ("the '522 Patent")

19 arising out of the patent laws of the United States, 35 U.S.C. § 1 *et seq.*; (2) misappropriation of

20 trade secrets under the Defend Trade Secrets Act ("DTSA"), 18 U.S.C. § 1836;

21 (3) misappropriation of trade secrets under California Uniform Trade Secrets Act, Civil Code

22 § 3426, *et seq.*; and (4) breach of written contract. Counts I through IV are against Defendants X,

23 Alphabet and Google Inc. ("Google").   X, Alphabet, and Google are referred to collectively as

24 "Defendants" hereinafter.

25

26

27

28

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1

THE PARTIES

2   7.   Space Data is an Arizona corporation, with its principal place of business at 2535

3   W. Fairview Street, Suite 101, Chandler, Arizona 85224-4707.

4   8.   Alphabet is a Delaware corporation, with its principal place of business at 1600

5   Amphitheatre Parkway, Mountain View, California 94043-1351. Alphabet is the successor issuer

6   to, and parent holding company of, Google. Alphabet owns all of the equity interests in Google.

7   The reorganization of Google into Alphabet was completed on October 2, 2015.

8   9.   Google is a Delaware corporation, with its principal place of business at 1600

9   Amphitheatre Parkway, Mountain View, California 94043-1351.

10   10.   X is a Delaware corporation, with its principal place of business at 1600

11   Amphitheatre Parkway, Mountain View, California 94043-1351. It is a research and development

12   facility created by Google and (since October 2015) operated as a subsidiary of Alphabet.

13

JURISDICTION AND VENUE

14   11.   Space Data brings its action for patent infringement under the patent laws of the

15   United States, 35 U.S.C. § 271 *et seq.* This Court has federal question subject matter jurisdiction

16   over Space Data's patent infringement claims under 28 U.S.C. §§ 1331 and 1338(a).

17   12.   This Court also has federal question subject matter jurisdiction under the DTSA, 18

18   U.S.C. § 1836. This Court has original jurisdiction over this controversy for misappropriation of

19   trade secrets claims pursuant to 18 U.S.C. § 1836(c) and 35 U.S.C. § 1331. This Court has

20   supplemental jurisdiction over the controversy for all other claims asserted herein pursuant to 28

21   U.S.C. § 1367.

22   13.   Venue is proper in this District under 28 U.S.C. §§ 1391(c)-(d) and 1400(b) because

23   (i) Defendants maintain their principal places of business in this District, and (ii) this is a District in

24   which Defendants are subject to the Court's personal jurisdiction with respect to this action, and/or

25   the District in this State where Defendants have the most significant contacts.

26

27

28

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1

INTRADISTRICT ASSIGNMENT

14.   Pursuant to Civil Local Rule 3-2(c), this intellectual property action would be properly assigned to any division within this district. The parties, however, agreed to adjudicate any dispute arising out of the NDA, which forms a basis for the trade secret allegations, in the state or federal court of Santa Clara County, California. *See* Exhibit A, hereto, at ¶ 17. Assignment to the San Jose Division would therefore be proper.

SPACE DATA'S PATENTS, PROPRIETARY TECHNOLOGY, CONFIDENTIAL INFORMATION AND TRADE SECRETS

15.   Jerry Knoblach, the CEO of Space Data, is co-inventor of numerous patents, including the '941 and '522 Patents (collectively "the patents-in-suit").   The patents-in-suit disclose an airborne constellation with a plurality of individual lighter-than-air platforms (e.g., balloons and associated payload equipment) spaced apart above a geographic area. Each of the platforms includes an enclosure holding a regulated volume of low density gas for buoyancy. Each of the plurality of balloons also includes a signal transmitting device attached to the enclosure by which signals from the platform may be transmitted to the contiguous geographic area.

16.   Space Data is licensed by the Federal Communications Commission to provide narrowband personal communications services nationwide and has broadband spectrum licenses in remote and rural areas such as Alaska and the Gulf of Mexico. Space Data started offering commercial wireless services in 2004 from a constellation of altitude controlled balloons which drift in the stratosphere. Since that time, it has extended the technology to service the U.S. Armed Services with deployments on four continents. Space Data is currently testing a broadband 4G version of its SkySite™ Platform in partnership with a major wireless infrastructure vendor.

17.   In addition to its patent portfolio, Space Data has taken extensive measures to protect its confidential information and trade secrets. For example, Space Data requires its employees to agree to protect any confidential and trade secret information of Space Data, and assign all ownership rights to technologies they work on or develop during their employment with Space Data pursuant to a Non-Disclosure, Non-Competition and Assignment of Intellectual Property Rights Agreement ("Employment Agreement").

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1   18.   Examples of Space Data confidential information and trade secrets include, but are

2 not limited to, accumulation of weather data, launch methods, launch timing, balloon types, altitude

3 regulation, business methods, business models, financial information, technology solutions, and

4 unique knowledge and interpretation of weather data, wherein this knowledge and interpretation is

5 not available in public, which for example includes knowledge of the winds between 60,000 and

6 100,000 foot altitudes.

7   19.   Space Data has gathered data on the environment in the stratosphere through the

8 hundreds of thousands of flight hours of its various balloon-borne platforms. This data is much

9 higher resolution than the publicly available data from government-sponsored weather agencies.

10 The unique knowledge and the conclusions drawn from the data gathered offer competitive

11 advantages in the planning, development and operation of constellations of free-floating

12 stratospheric balloons platforms. These hundreds of thousands of flight hours also include data on

13 the propagation of radio signals from stratospheric balloon-based transceivers to a wide variety of

14 standard wireless user devices on the ground operating in various environments (outside, in

15 buildings, under trees, etc.). Pursuant to the Employment Agreement, Space Data employees agree

16 to maintain the confidentiality of Space Data's confidential information, technical data, trade

17 secrets and/or know-how.

18   20.   The Department of Defense has granted Space Data a Facility Clearance to handle

19 classified information. As part of this facility clearance, Space Data undergoes regular audit and

20 reviews by the Defense Security Service to ensure our nation's secrets are being properly

21 safeguarded. This includes training of Space Data employees on how to safeguard information and

22 how to recognize and counter common strategies by others to obtain sensitive information.

23   21.   Space Data has expended significant amounts of time, effort, and money to ensure

24 Space Data's information was not, and is not, disclosed or otherwise made publicly available, and

25 to preserve and maintain the confidentiality of its trade secret information.

26   22.   Space Data's confidential and trade secret information derives significant

27 independent economic value, whether actual and/or potential, from not being generally known to

28

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1   the public or competitors, or to other persons who can obtain economic value from their use or

2   disclosure.   Space Data also derives substantial business advantage and significant economic

3   benefit from maintaining the ownership and confidentiality of confidential and trade secret

4   information.

5   23.   If this information, which Space Data has maintained as confidential or trade

6   secrets, were disclosed to competitors and/or to the public, such disclosure would cause severe

7   economic harm and competitive disadvantage to Space Data.

8   **DEFENDANTS' MISAPPROPRIATION OF SPACE DATA'S CONFIDENTIAL INFORMATION AND TRADE SECRETS,**

9   **AND BREACH OF CONTRACT**

10   24.   On or about December 4, 2007, Space Data and Google executed the NDA for the

11   sole and exclusive purpose of engaging in "discussions and negotiations concerning a proposed

12   acquisition of shares or assets of Space Data."   The NDA expressly stated that "it is anticipated that

13   the Parties will disclose or deliver certain trade secrets or confidential or proprietary information

14   and Google and Space Data are entering into this Agreement in order to ensure the confidentiality

15   of such trade secrets and confidential or proprietary information . . . ."   Ex. A – Redacted 2007

16   Non-Disclosure Agreement between Space Data and Google**.**

17   25.   Shortly after execution of the NDA, Space Data provided Google with access to

18   Space Data confidential and trade secret information, including the information recited in

19   paragraphs 18-19, above, such as: (1) Space Data's proprietary financial information; (2) business

20   concepts addressing the use of balloons for transmission of wireless service; (3) use of

21   implementation of the balloon constellation in a narrowband network; and other information, all of

22   which was marked confidential.

23   26.   On or about February 15, 2008, 11-13 members of Google flew via their corporate

24   jet to Mesa Gateway Airport to visit Space Data's facilities for an entire day.   Included among the

25   Google team were the founders of Google, Larry Page and Sergey Brin, who participated in the

26   Space Data presentations and demonstrations of Space Data's proprietary technology.   Indeed,

27   Mr. Page and Mr. Brin participated in demonstrations in which they launched Space Data's

28

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

balloons. Ex. B - February 15, 2008 Space Data balloon launch by Sergey Brin; Ex. C - Pictures of Google employees and founders at Space Data facilities.

Figure 1. Photograph of February 15, 2008 Space Data balloon release by Sergey Brin, co-founder of Google and President of Alphabet. Attached as Ex. B.

27.   Space Data and Google engaged in extensive discussions about Space Data's business, including its technology, and its financial model, and Google was also given access to Space Data's balloon production line and network operation center where they saw a map of balloons in the sky and the wireless communications coverage Space Data was providing across 1/3 of the United States.

28.   During Google's February 15, 2008, visit to Space Data, the confidential "Ubiquity" business model, created by Space Data, was proposed to Google. Project Loon is employing the same "Ubiquity" business model originally developed by Space Data. Ex. D – Redacted Slide 11 from February 15, 2008 Space Data Presentation to Google.

29.   On February 19, 2008, following the February 15, 2008 meeting, Eric Frische, an employee of Space Data, sent Google a list of non-exhaustive items which Space Data disclosed to Google and which Space Data considered confidential information and trade secrets. Ex. E – Redacted February 19, 2008 list of confidential Space Data items.

30.   On or about February 24, 2008, Minnie Ingersoll, a member of the Google team who had visited Space Data's facilities on February 15, 2008, sent Space Data an e-mail stating

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1   that Google will not engage in further discussions with Space Data "in the near term," ostensibly

2   because Space Data had communicated with the Wall Street Journal about Space Data's business.

3   31.   The terms of the NDA expressly provide that this agreement shall remain in effect

4   until it is terminated by either party with thirty days prior written notice, and that the agreement

5   shall "survive with respect to Confidential Information that is disclosed before the effective date of

6   termination." As of today, Defendants have never provided any such notice of termination.

7   32.   Despite Google's express agreement to the terms of the NDA, Space Data is

8   informed and believes that Defendants have engaged in other business activity based on Space

9   Data's confidential and trade secret information, which conflict with their legal obligations to

10   Space Data.   Such activities have been to advance, among other things, the development of

11   Defendants' Project Loon.

12   33.   Project Loon was created without Space Data's permission, and the creation of

13   Project Loon breaches the terms of the NDA.

14   34.   In a March 21, 2014 TED interview with journalist Charlie Rose regarding Project

15   Loon, Google co-founder Larry Page claimed that Google had been thinking of the idea of

16   launching balloons for "five years or more." During the course of the interview, Mr. Rose asked

17   "But are you at the mercy of the wind?" to which Mr. Page responded: "Yeah, but it turns out, that

18   we did some weather simulations which probably hadn't really been done before, and if you

19   control the altitude of the balloons, which you can do by pumping air into them or other ways, you

20   can actually control roughly where they go, and so we think we can build a worldwide mesh of

21   these balloons over the whole planet."

22   35.   As set forth above, however, Space Data had reduced this theory and simulations to

23   actual practice and had conducted over 15,000 flights and accrued over 100,000 flight hours of

24   such constellations in order to understand the wind patterns by the time Larry Page and other

25   individuals from Google had visited Space Data. This concept of "if you control the altitude you

26   can actually control roughly where they go" was something Space Data demonstrated in February

27

28

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1   2008 to Larry Page personally with over a dozen balloons in the sky which were actively flying at

2   Space Data's network control center.

3   36.   According to a 2015 article in VERGE, Google X chief Astro Teller states Loon

4   was born out of a long-standing fascination that Google's founders, Larry Page and Sergey Brin,

5   had with high-altitude balloons, and "Either we could take something they hadn't thought about,

6   present it to them, and get them excited . . . or we could take something they were already excited

7   about, but no one really knew how to do and make it work." Ex. F - 2015-03-02 Project Loon

8   interview in Verge.

9   37.   Space Data is informed and believes that Defendants have unlawfully utilized Space

10   Data's confidential information and trade secrets in violation of the NDA.

11   38.   Defendants' conduct has irreparably harmed Space Data and will continue to do so

12   if they are not enjoined from (i) utilizing and disclosing Space Data's confidential and trade secret

13   information obtained through improper means, (ii) competing directly or indirectly with Space

14   Data's present and anticipated business, and (iii) diverting business opportunities from Space Data.

15   **COUNT I**

16   **(Patent Infringement pursuant to 35 U.S.C. § 271)**

17   **A.   Infringement of United States Patent No. 6,628,941**

18   39.   Space Data repeats, realleges, and incorporates by reference, as if fully set forth

19   herein, the allegations of the preceding paragraphs, as set forth above.

20   40.   Space Data is the assignee and owner of all right, title, and interest in and to the

21   United States Patent No. 6,628,941 ("'941 Patent"), which was issued on September 30, 2003. A

22   true and correct copy of the '941 Patent is attached hereto as Exhibit G - United States Patent No.

23   6,628,941.

24   41.   The '941 Patent addresses a constellation of small, airborne communications

25   platforms. The disclosed invention claims a plurality of small, lighter-than-air communications

26   platforms spaced apart and floating in the stratospheric layer of the Earth's atmosphere over a

27   contiguous geographic area.

28

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

42.   Space Data has the exclusive right to make, use, sell, and offer to sell any product embodying the '941 Patent throughout the United States, and to import any product embodying the '941 Patent into the United States.

43.   Space Data has commercially exploited the '941 Patent by making, marketing, selling, and using products covered by the '941 Patent, including for example its popular SkySat™ repeater platform, currently being used operationally by the US Marine Corps and US Army, as well as its SkySite™ network that has provided wireless services from a constellation of balloons in the stratosphere on a commercial basis since 2004.

44.   The following describes, at least in part, Project Loon, which "uses software algorithms to determine where its balloons need to go, then moves each one into a layer of wind blowing in the right direction. By moving with the wind, the balloons can be arranged to form one large communications network" (http://www.google.com/loon/how/).

45.   The following describes, at least in part, Project Loon: "Each balloon can provide connectivity to a ground area about 80 km in diameter using a wireless communications technology called LTE. To use LTE, Project Loon partners with telecommunications companies to share cellular spectrum so that people will be able to access the Internet everywhere directly from their phones and other LTE-enabled devices. Balloons relay wireless traffic from cell phones and other devices back to the global Internet using high-speed links" (http://www.google.com/loon/how/).

[Remainder of page intentionally blank]

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

46.   The Project Loon web site describes a free floating constellation communications system comprising a plurality of lighter-than-air platforms with at least a first platform and a second platform, as shown in the following images captured from the Project Loon web site (http://www.google.com/loon/how/):

Project Loon balloons float in the stratosphere, twice as high as airplanes and the weather. They are carried around the Earth by winds and they can be steered by rising or descending to an altitude with winds moving in the desired direction. People connect to the balloon network using a special Internet antenna attached to their building. The signal bounces from balloon to balloon, then to the global Internet back on Earth.

A small box containing the balloon's electronic equipment hangs underneath the inflated envelope, like the basket that is carried by a hot air balloon. This box contains circuit boards that control the system, radio antennas to communicate with other balloons and with Internet antennas on the ground, and batteries to store solar power so the balloons can operate during the night.

Project Loon balloons travel around 20 km above the Earth's surface in the stratosphere. Winds in the stratosphere are generally steady and slow-moving at between 5 and 20 mph, and each layer of wind varies in direction and magnitude. Project Loon uses software algorithms to determine where its balloons need to go, then moves each one into a layer of wind blowing in the right direction. By moving with the wind, the balloons can be arranged to form one large communications network.

[Remainder of page intentionally blank]

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1   47.   The Project Loon web site describes a first and second platform comprising a

2 communications signal transceiver, as shown in the following images captured from the Project

3 Loon web site (http://www.google.com/loon/how/):
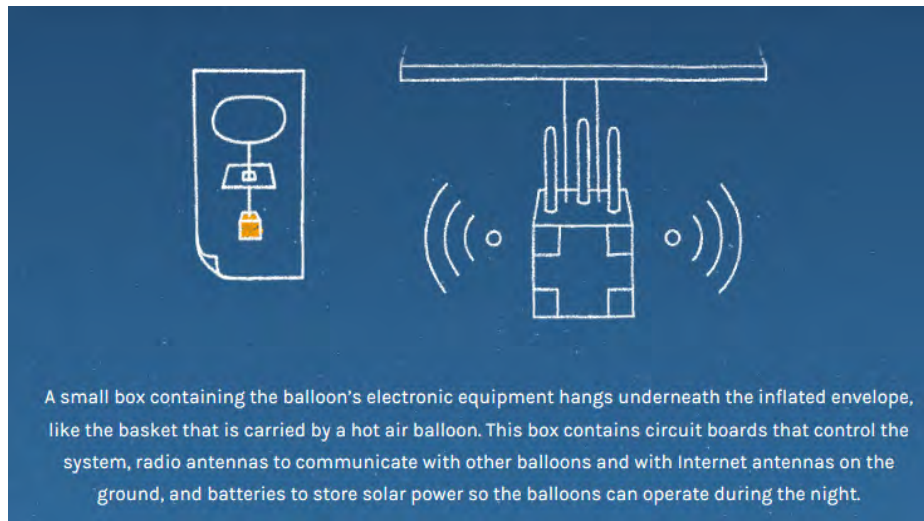
A small box containing the balloon's electronic equipment hangs underneath the inflated envelope, like the basket that is carried by a hot air balloon. This box contains circuit boards that control the system, radio antennas to communicate with other balloons and with Internet antennas on the ground, and batteries to store solar power so the balloons can operate during the night.

[Remainder of page intentionally blank]

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

48.   The Project Loon web site describes a free floating platform without longitudinal and latitudinal position control carried by the winds, as shown in the following images captured from the Project Loon web site (http://www.google.com/loon/how/):

Project Loon balloons float in the stratosphere, twice as high as airplanes and the weather. They are carried around the Earth by winds and they can be steered by rising or descending to an altitude with winds moving in the desired direction. People connect to the balloon network using a special Internet antenna attached to their building. The signal bounces from balloon to balloon, then to the global Internet back on Earth.

LEARN MORE

Project Loon balloons travel around 20 km above the Earth's surface in the stratosphere. Winds in the stratosphere are generally steady and slow-moving at between 5 and 20 mph, and each layer of wind varies in direction and magnitude. Project Loon uses software algorithms to determine where its balloons need to go, then moves each one into a layer of wind blowing in the right direction. By moving with the wind, the balloons can be arranged to form one large communications network.

[Remainder of page intentionally blank]

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

- 14 -

49.   The Project Loon web site describes communication devices within a geographic area having communications capability with communications signal transceivers, as shown in the following images captured from the Project Loon web site (http://www.google.com/loon/how/):

Each balloon can provide connectivity to a ground area about 40 km in diameter at speeds comparable to 3G. For balloon-to-balloon and balloon-to-ground communications, the balloons use antennas equipped with specialized radio frequency technology. Project Loon currently uses ISM bands (specifically 2.4 and 5.8 GHz bands) that are available for anyone to use.

Q: HOW DO I RECEIVE INTERNET SERVICE FROM THE BALLOONS?

A: Signals are transmitted from the balloons to a specialized Internet antenna mounted to the side of a home or workplace that use radio frequency technology. The Internet antenna is connected to a consumer grade router. Web traffic that travels through the balloon network is ultimately relayed to ground stations, where it's connected to pre-existing Internet infrastructure, like fiber cables and our local telecommunications partners.

A small box containing the balloon's electronic equipment hangs underneath the inflated envelope, like the basket that is carried by a hot air balloon. This box contains circuit boards that control the system, radio antennas to communicate with other balloons and with Internet antennas on the ground, and batteries to store solar power so the balloons can operate during the night.

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

50.   The Project Loon web site shows communications devices capable of handing off communication with one platform to another platform as the first platform moves out of a communication range of said at least one of the communications devices, as shown in the following images and video narratives captured from the Google Project Loon web site (http://www.google.com/loon/how/ and https://www.youtube.com/watch?v=HOndhtfIXSY):

"… so another balloon is coming just at the right time to take the place of one that left."

Project Lead, Mike Cassidy, https://www.youtube.com/watch?v=HOndhtfIXSY.

Project Loon began with a pilot test in June 2013, when thirty balloons were launched from New Zealand's South Island and beamed Internet to a small group of pilot testers. The pilot test has since expanded to include a greater number of people over a wider area. Looking ahead, Project Loon will continue to expand the pilot, with the goal of establishing a ring of uninterrupted connectivity at latitudes in the Southern Hemisphere, so that pilot testers in these latitudes can receive continuous service via balloon-powered Internet.

[Remainder of page intentionally blank]

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

51.   The Project Loon web site shows a free floating constellation communications system that provides a line-of-sight coverage of wireless data to a population on a contiguous landmass, as shown in the following information captured from the Project Loon web site (http://www.google.com/loon/how/):

Each balloon can provide connectivity to a ground area about 40 km in diameter at speeds comparable to 3G. For balloon-to-balloon and balloon-to-ground communications, the balloons use antennas equipped with specialized radio frequency technology. Project Loon currently uses ISM bands (specifically 2.4 and 5.8 GHz bands) that are available for anyone to use.

[Remainder of page intentionally blank]

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

52.   The Project Loon web site shows lighter-than-air platforms that are launched in a manner such that when in an operating range of 60,000 to 140,000 feet, as shown in the following information captured from the Project Loon web site (http://www.google.com/loon/how/):

> **Q: WHAT ARE PROJECT LOON BALLOONS?**
>
> A: Project Loon is a global network of high altitude balloons. The balloons ascend like weather balloons until they reach the stratosphere, where they drift above 18 km (60,000 ft), safely above the altitudes used for aviation. Unlike weather balloons, Loon balloons are superpressure, which enable them to stay aloft for 100+ days at a time. This is far longer than typical weather balloons, which last for a matter of hours. Loon balloons are also unique in that they are steerable and entirely solar powered.

> Project Loon balloons travel around 20 km above the Earth's surface in the stratosphere. Winds in the stratosphere are generally steady and slow-moving at between 5 and 20 mph, and each layer of wind varies in direction and magnitude. Project Loon uses software algorithms to determine where its balloons need to go, then moves each one into a layer of wind blowing in the right direction. By moving with the wind, the balloons can be arranged to form one large communications network.

> **Q: HOW HIGH DO THE BALLOONS FLY?**
>
> A: We are flying in the stratosphere well above commercial air traffic and weather events, at around 18-27 km or 60,000 - 90,000 feet.

[Remainder of page intentionally blank]

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

53.   The Project Loon web site describes that there is substantially a relative distance between the lighter-than-air platforms, as shown in the following images captured from the Project Loon web site (http://www.google.com/loon/how/):

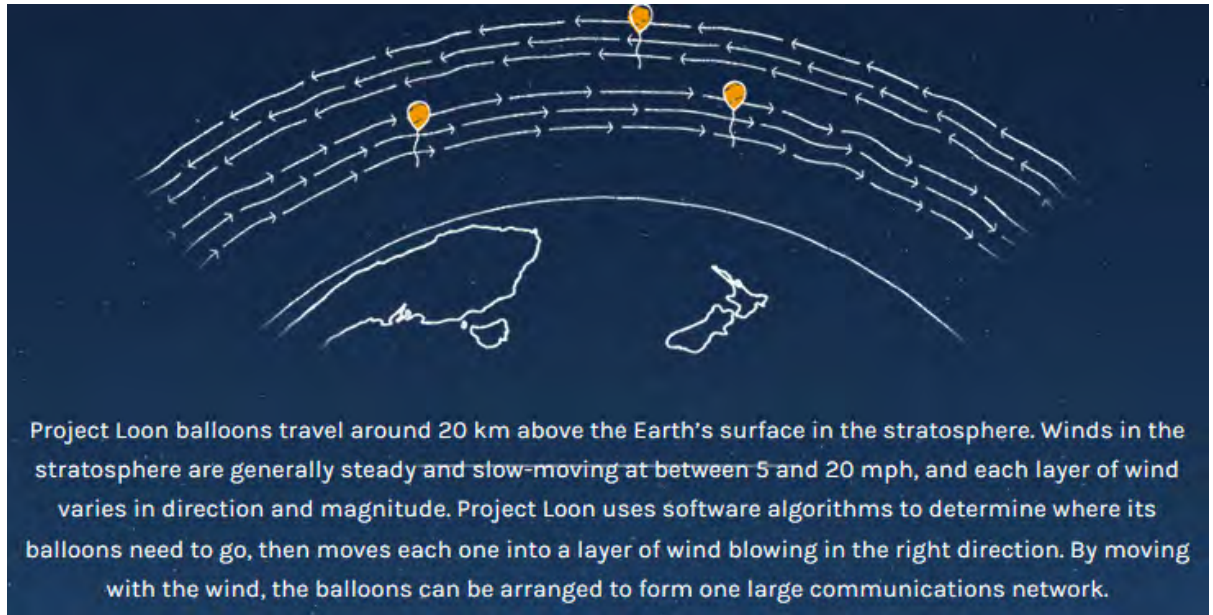Project Loon balloons travel around 20 km above the Earth's surface in the stratosphere. Winds in the stratosphere are generally steady and slow-moving at between 5 and 20 mph, and each layer of wind varies in direction and magnitude. Project Loon uses software algorithms to determine where its balloons need to go, then moves each one into a layer of wind blowing in the right direction. By moving with the wind, the balloons can be arranged to form one large communications network.

54.   Defendants have been, and are currently, directly infringing at least claim 1 of the '941 Patent in violation of 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by its Google Loon products, that practice the system disclosed in the '941 Patent of a plurality of small, lighter-than-air communications platforms spaced-apart and floating in the stratospheric layer of the Earth's atmosphere over a contiguous geographic area, as detailed in the attached infringement chart Ex. H - '941 Patent – Project Loon preliminary infringement chart.

55.   Defendants will continue to directly infringe the '941 Patent unless enjoined.

56.   As a result of Defendants' direct infringement, Space Data has been and continues to be damaged and irreparably injured, including without limitation, the loss of sales and profits it would have earned but for Defendants' actions, and damage to Space Data's reputation among potential and existing customers, business partners, investors, and in the industry in general.

57.   Defendants will continue to irreparably harm Space Data unless enjoined.

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1

B.   Infringement of United States Patent No. 7,801,522

2   58.   Space Data repeats, realleges, and incorporates by reference, as if fully set forth

3   herein, the allegations of the preceding paragraphs.

4   59.   Space Data is the assignee and owner of all rights, title, and interest in and to the

5   '522 Patent, which was issued on September 21, 2010. A true and correct copy of the '522 Patent is

6   attached hereto as Exhibit I - United States Patent No. 7,801,522.

7   60.   The '522 Patent addresses unmanned lighter-than-air platforms and communication

8   devices, operating in the stratosphere, their termination, and recovery.

9   61.   Space Data has the exclusive right to make, use, sell, and offer to sell any product

10   embodying the '522 Patent throughout the United States, and to import any product embodying the

11   '941 Patent into the United States.

12   62.   Space Data has commercially exploited the '522 Patent by making, marketing,

13   selling, and using products covered by the '522 Patent, including for example its popular SkySite™

14   platform, a low-cost solution for data communications in remote areas, which creates a coverage

15   circle of over 400 miles in diameter in use across a broad spectrum of industries.

16

17   [Remainder of page intentionally blank]

18

19

20

21

22

23

24

25

26

27

28

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

63.   The Project Loon web site shows that it has deployed a system comprising a free-floating platform, as shown in the following information captured from the Project Loon web site (http://www.google.com/loon/how/):

Project Loon balloons float in the stratosphere, twice as high as airplanes and the weather. They are carried around the Earth by winds and they can be steered by rising or descending to an altitude with winds moving in the desired direction. People connect to the balloon network using a special Internet antenna attached to their building. The signal bounces from balloon to balloon, then to the global Internet back on Earth.

Project Loon balloons travel around 20 km above the Earth's surface in the stratosphere. Winds in the stratosphere are generally steady and slow-moving at between 5 and 20 mph, and each layer of wind varies in direction and magnitude. Project Loon uses software algorithms to determine where its balloons need to go, then moves each one into a layer of wind blowing in the right direction. By moving with the wind, the balloons can be arranged to form one large communications network.

[Remainder of page intentionally blank]

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT
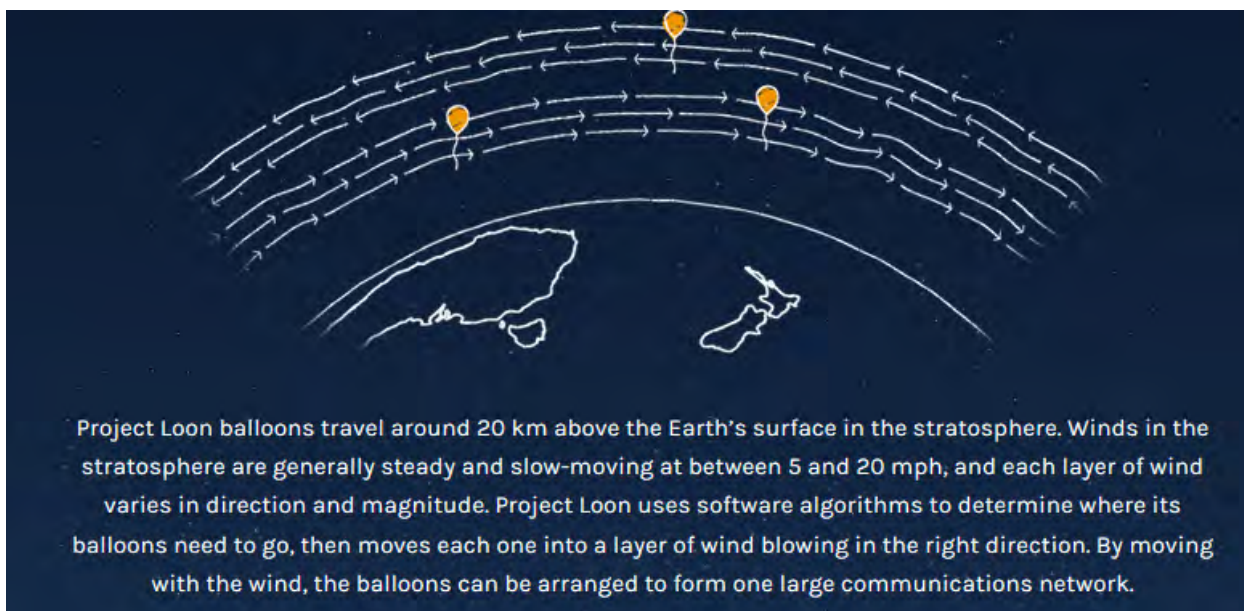
64.   The Project Loon web site shows that it has deployed a system with a communications device that is separate from the free-floating platform, as shown in the following information captured from the Project Loon web site (http://www.google.com/loon/how/):

A small box containing the balloon's electronic equipment hangs underneath the inflated envelope, like the basket that is carried by a hot air balloon. This box contains circuit boards that control the system, radio antennas to communicate with other balloons and with Internet antennas on the ground, and batteries to store solar power so the balloons can operate during the night.

Project Loon balloons float in the stratosphere, twice as high as airplanes and the weather. In the stratosphere, there are many layers of wind, and each layer of wind varies in direction and speed. Loon balloons go where they're needed by rising or descending into a layer of wind blowing in the desired direction of travel. By partnering with Telecommunications companies to share cellular spectrum we've enabled people to connect to the balloon network directly from their phones and other LTE-enabled devices. The signal is then passed across the balloon network and back down to the global Internet on Earth.

[Remainder of page intentionally blank]

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
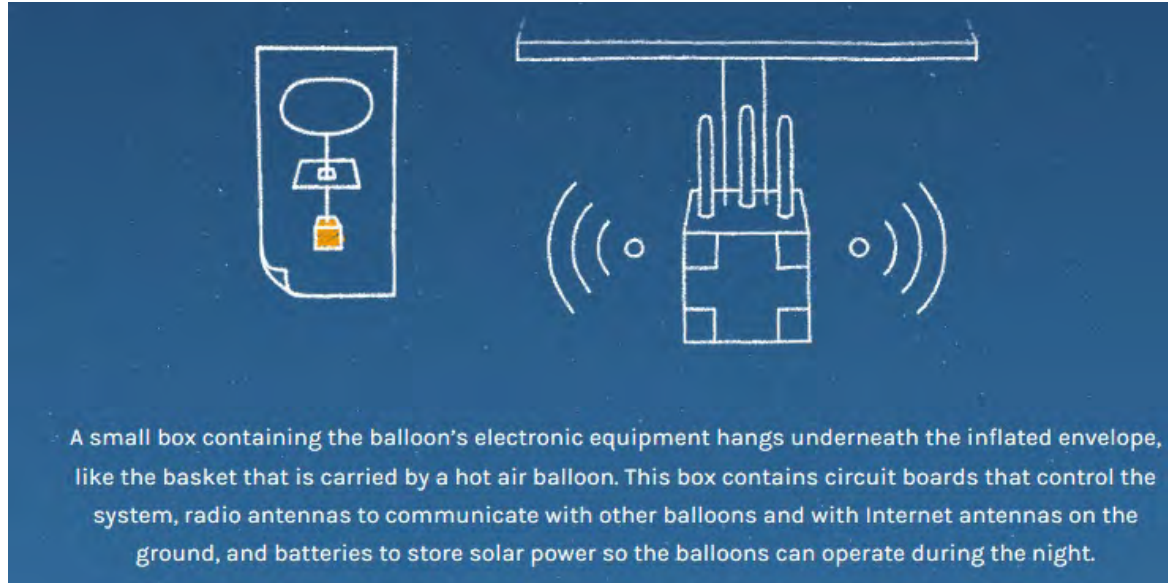PATENT INFRINGEMENT

1   65.   The Project Loon web site shows that it has deployed a system with a free-floating

2   platform comprising a lighter-than air gas enclosure, as shown in the following information

3   captured from the Project Loon web site (http://www.google.com/loon/how/):

The inflatable part of the balloon is called a balloon envelope. A well-made balloon envelope is critical for allowing a balloon to last around 100 days in the stratosphere. Loon's balloon envelopes are made from sheets of polyethylene plastic, and they measure fifteen meters wide by twelve meters tall when fully inflated. When a balloon is ready to be taken out of service, gas is released from the envelope to bring the balloon down to Earth in a controlled descent. In the unlikely event that a balloon drops too quickly, a parachute attached to the top of the envelope is deployed.

Project Loon balloons float in the stratosphere, twice as high as airplanes and the weather. In the stratosphere, there are many layers of wind, and each layer of wind varies in direction and speed. Loon balloons go where they're needed by rising or descending into a layer of wind blowing in the desired direction of travel. By partnering with Telecommunications companies to share cellular spectrum we've enabled people to connect to the balloon network directly from their phones and other LTE-enabled devices. The signal is then passed across the balloon network and back down to the global Internet on Earth.

[Remainder of page intentionally blank]

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
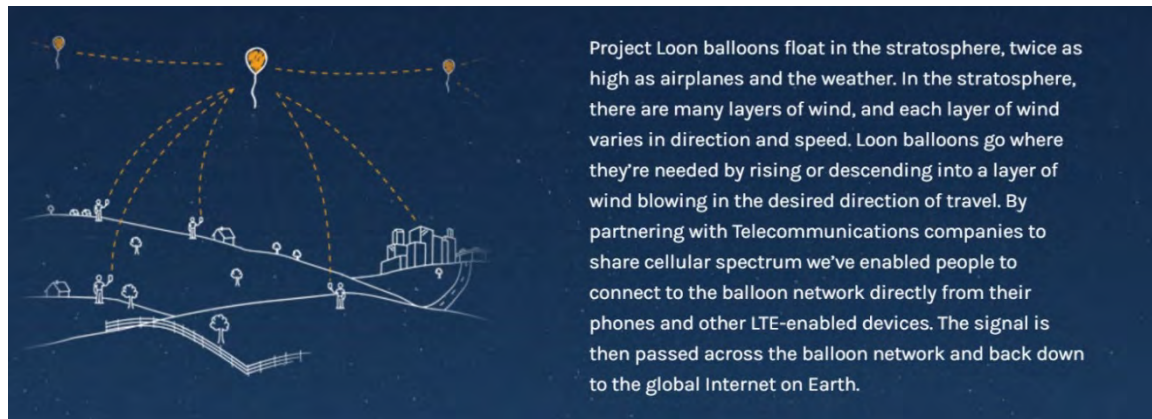PATENT INFRINGEMENT

66.   The Project Loon web site shows that it has deployed a system with a payload comprising a transceiver, as shown in the following information captured from the Project Loon web site (http://www.google.com/loon/how/):

A small box containing the balloon's electronic equipment hangs underneath the inflated envelope, like the basket that is carried by a hot air balloon. This box contains circuit boards that control the system, radio antennas to communicate with other balloons and with Internet antennas on the ground, and batteries to store solar power so the balloons can operate during the night.

[Remainder of page intentionally blank]

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

67.   The Project Loon web site shows that it has deployed a system with a transceiver is capable of receiving a signal from the communication device, as shown in the following information captured from the Project Loon web site (http://www.google.com/loon/how/):

Each balloon can provide connectivity to a ground area about 40 km in diameter at speeds comparable to 3G. For balloon-to-balloon and balloon-to-ground communications, the balloons use antennas equipped with specialized radio frequency technology. Project Loon currently uses ISM bands (specifically 2.4 and 5.8 GHz bands) that are available for anyone to use.

Project Loon balloons float in the stratosphere, twice as high as airplanes and the weather. In the stratosphere, there are many layers of wind, and each layer of wind varies in direction and speed. Loon balloons go where they're needed by rising or descending into a layer of wind blowing in the desired direction of travel. By partnering with Telecommunications companies to share cellular spectrum we've enabled people to connect to the balloon network directly from their phones and other LTE-enabled devices. The signal is then passed across the balloon network and back down to the global Internet on Earth.

[Remainder of page intentionally blank.]

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

68.   The Project Loon web site shows that it has deployed a system with a communication device that is adapted to handoff the signal to another transceiver of another free-floating platform as the free-floating platform moves out of a communication range of the communication device, as shown in the following images and video narratives captured from theGoogle Project Loon web site (http://www.google.com/loon/how/ and https://www.youtube.com/watch?v=HOndhtfIXSY):

"… so another balloon is coming just at the right time to take the place of one that left."

Project Lead, Mike Cassidy, https://www.youtube.com/watch?v=HOndhtfIXSY.

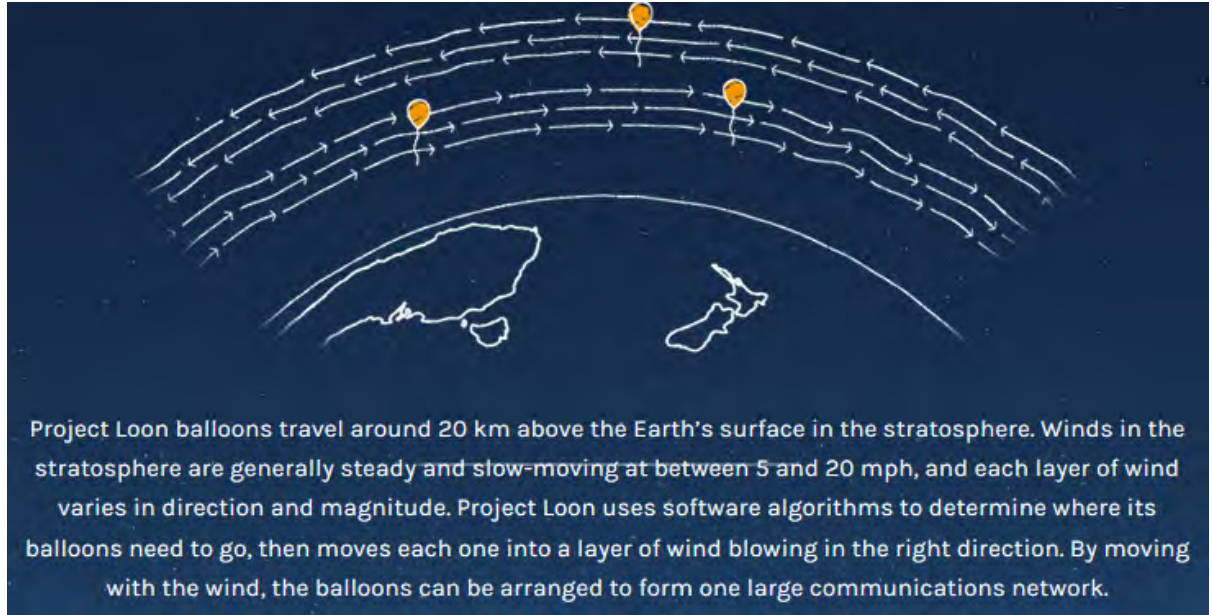[Remainder of page intentionally blank]

69.   The Project Loon web site shows that it has deployed a system wherein the free-floating platform operates without a longitudinal and latitudinal position control, as shown in the following information captured from the Project Loon web site (http://www.google.com/loon/how/):

Project Loon balloons float in the stratosphere, twice as high as airplanes and the weather. They are carried around the Earth by winds and they can be steered by rising or descending to an altitude with winds moving in the desired direction. People connect to the balloon network using a special Internet antenna attached to their building. The signal bounces from balloon to balloon, then to the global Internet back on Earth.

LEARN MORE

[Remainder of page intentionally blank]

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

70.   The Project Loon web site shows that it has deployed a system wherein optionally the free-floating platform operates with an altitudinal control, as shown in the following information captured from the Project Loon web site (http://www.google.com/loon/how/):

Project Loon balloons travel around 20 km above the Earth's surface in the stratosphere. Winds in the stratosphere are generally steady and slow-moving at between 5 and 20 mph, and each layer of wind varies in direction and magnitude. Project Loon uses software algorithms to determine where its balloons need to go, then moves each one into a layer of wind blowing in the right direction. By moving with the wind, the balloons can be arranged to form one large communications network.

71.   Defendants have been, and are currently, directly infringing at least claim 1 of the '522 Patent in violation of 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by its Google Loon products, that practice the system disclosed in the '522 Patent of unmanned lighter-than-air platforms and communication device operating in the stratosphere, as detailed in the attached infringement chart (*see* Ex. J - '522 Patent – Project Loon preliminary infringement chart).

72.   Defendants will continue to directly infringe the '522 Patent unless enjoined.

73.   As a result of Defendants' direct infringement, Space Data has been and continues to be damaged and irreparably injured, including without limitation, the loss of sales and profits it would have earned but for Defendants' actions, and damage to Space Data's reputation among potential and existing customers, business partners, investors, and in the industry in general.

74.   Defendants will continue to irreparably harm Space Data unless enjoined.

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1

COUNT II

2

(Misappropriation of Trade Secrets Pursuant to 18 U.S.C. § 1836(b))

3   75.   Space Data repeats, realleges, and incorporates by reference, as if fully set forth

4   herein, the allegations of the preceding paragraphs.

5   76.   Space Data's confidential information includes trade secrets and/or other proprietary

6   information which derives independent economic value from not being known to, and not being

7   readily ascertainable through proper means by, another person who can obtain economic value

8   from the disclosure or use of the information.

9   77.   Space Data's confidential and trade secret information has been and continues to be

10   the subject of Space Data's reasonable measures to keep such information secret.

11   78.   Defendants misappropriated such confidential and trade secret information of Space

12   Data in connection with the Project Loon business.

13   79.   As a result of Defendants' misappropriation, Space Data has been and continues to

14   be damaged and irreparably injured, including without limitation, the loss of sales and profits it

15   would have earned but for Defendants' actions, and damage to Space Data's reputation among

16   potential and existing customers, business partners, investors, and in the industry in general.

17   80.   Defendants' misappropriation is willful and malicious and thereby entitles Space

18   Data to an award of exemplary damages.

19   81.   Defendants' misappropriation of Space Data's confidential and trade secret

20   information has caused and will continue to cause Space Data irreparable and substantial injury and

21   therefore cannot be fully redressed through damages alone. An injunction prohibiting Defendants

22   from further use or disclosure of Space Data's confidential and trade secret information is

23   necessary to provide Space Data with complete relief.

24

25

26

27

28

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1

COUNT III

2

(Misappropriation of Trade Secret Pursuant to California Civil Code § 3426, *et seq.*)

3   82.   Space Data repeats, realleges, and incorporates by reference, as if fully set forth

4   herein, the allegations of the preceding paragraphs.

5   83.   Space Data's confidential information includes trade secrets and proprietary

6   information which derives independent economic value from not being known to the public or

7   other persons who could obtain economic value from their disclosure or use.

8   84.   Space Data's confidential information has been and continues to be the subject of

9   efforts that were reasonable under the circumstances to maintain their secrecy.

10   85.   Defendants misappropriated such confidential and trade secret information of Space

11   Data in connection with the Project Loon business.

12   86.   As a result of Defendants' direct infringement, Space Data has been and continues

13   to be damaged and irreparably injured, including without limitation, the loss of sales and profits it

14   would have earned but for Defendants' actions, and damage to Space Data's reputation among

15   potential and existing customers, business partners, investors, and in the industry in general.

16   87.   Defendants' misappropriation is willful and malicious and thereby entitles Space

17   Data to an award of exemplary damages.

18   88.   Defendants' misappropriation of Space Data's confidential and trade secret

19   information has caused and will continue to cause Space Data irreparable and substantial injury and

20   therefore cannot be fully redressed through damages alone. An injunction prohibiting Defendants

21   from further use or disclosure of Space Data's confidential and trade secret information is

22   necessary to provide Space Data with complete relief.

23

24

25

26

27

28

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1

COUNT IV

2

(Breach of Written Contract)

3   89.   Space Data repeats, realleges, and incorporates by reference, as if fully set forth

4   herein, the allegations of the preceding paragraphs.

5   90.   Space Data has performed all of its contractual obligations under the NDA to the

6   extent not excused.

7   91.   Defendants have breached their contractual obligations to Space Data under the

8   NDA by, *inter alia*, failing to adhere to the express confidentiality provisions it contained.

9   92.   As a direct and proximate result of Defendants' breaches of contract, Space Data

10   has been and continues to be damaged and irreparably injured, including without limitation, the

11   loss of sales and profits it would have earned but for Defendants' actions, and damage to Space

12   Data's reputation among potential and existing customers, business partners, investors, and in the

13   industry in general.

14   93.   As specified in the NDA, and agreed to and acknowledged by the parties, disputes

15   relating to or arising out of a breach of such agreements may cause Space Data to suffer irreparable

16   harm and to have no adequate remedy. Furthermore, as specified in such agreements and agreed to

17   and acknowledged by the parties, in the event of any breach or threat of breach of such agreements,

18   the other party will be entitled to injunctive relief, specific performance, and other equitable relief.

19

PRAYER FOR RELIEF

20   WHEREFORE, Space Data prays for judgment and relief as follows:

21   A.   Judgment in Space Data's favor that:

22   1.   United States Patent No. 6,628,941 is valid and enforceable against

23   Defendants;

24   2.   Defendants have infringed and are infringing United States Patent

25   No. 6,628,941;

26

27

28

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1   3.   An award to Space Data of damages sufficient to compensate it for

2   Defendants' past and future infringement of United States Patent

3   No. 6,628,941, together with costs and prejudgment interest;

4   4.   United States Patent No. 7,801,522 is valid and enforceable against

5   Defendants;

6   5.   Defendants have infringed and are infringing United States Patent

7   No. 7,801,522;

8   6.   An award to Space Data of damages sufficient to compensate it for

9   Defendants' past and future infringement of United States Patent

10   No. 7,801,522, together with costs and prejudgment interest;

11   7.   An award of treble damages as a result of Defendants' willful infringement

12   of the patents-in-suit;

13   8.   Defendants have wrongfully misappropriated or used Space Data's

14   Confidential Business Information; and

15   9.   Defendants breached the NDA.

16   B.   Further relief as follows:

17   1. Permanently enjoin Defendants, their officers, agents, servants, employees, and

18   those persons acting in concert or in participation therewith from infringing

19   United States Patent No. 6,628,941;

20   2. Permanently enjoin Defendants, their officers, agents, servants, employees, and

21   those persons acting in concert or in participation therewith from infringing

22   United States Patent No. 7,801,522;

23   3. Permanently enjoin the Defendants from misappropriating and/or using Space

24   Data's confidential and trade secret information and trade secret to develop

25   Project Loon or any other related business;

26   4. Permanently enjoin Defendants from further breaching the NDA; and

27

28

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1   5.   Maintaining—and, correspondingly, requiring Defendants to promptly deliver

2   and turn over to Space Data—any and all property or information of Space Data

3   which are in Defendants' possession, custody or control.

4   C.   Compensatory damages;

5   D.   Punitive and/or exemplary damages, including those allowed under DTSA and

6 California UTSA;

7   E.   Attorney's fees;

8   F.   Interests and costs;

9   H.   Such further and other relief as the Court may deem proper and just.

10   Respectfully submitted,

11 Dated: June 13, 2016   By: /s/ Colin T. Kemp

12   PILLSBURY WINTHROP SHAW PITTMAN LLP

13   Hemant Keeto Sabharwal
                                      (*pro hac vice* admission being sought)

14   1200 Seventeenth Street NW
                                      Washington, DC 20036-3006

15   Telephone: +1 (202) 663-8000
                                      Facsimile: +1 (202) 663-8007

16   E-mail: keeto.sabharwal@pillsburylaw.com

17
                                      Kirke M. Hasson (CA State Bar No. 061446)

18   Colin T. Kemp (CA State Bar No. 215408)
                                      Four Embarcadero Center, 22nd Floor

19   San Francisco, CA 94111-5998
                                      Telephone: +1 (415) 983-1000

20   Facsimile: +1 (415) 983-1200
                                      E-mail: kirke.hasson@pillsburylaw.com

21   E-mail: colin.kemp@pillsburylaw.com

22
                                      David N. Patariu (CA State Bar No. 270708)

23   401 Congress Avenue, Suite 1700
                                      Austin, Texas 78701-3797

24   Telephone: +1 (512) 580-9600
                                      Facsimile: +1 (512) 270-7812

25   david.patariu@pillsburylaw.com

26
                                      Attorneys for Plaintiff, Space Data Corporation

27

28

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT

1

DEMAND FOR JURY TRIAL

2

Space Data demands a jury trial on all issues so triable.

3

4

Respectfully submitted,

5

6   Dated: June 13, 2016   By: /s/ Colin T. Kemp

7
PILLSBURY WINTHROP SHAW PITTMAN LLP
8   Hemant Keeto Sabharwal
(*pro hac vice* admission to be sought)
9   1200 Seventeenth Street NW
Washington, DC 20036-3006
10   Telephone: +1 (202) 663-8000
Facsimile: +1 (202) 663-8007
11   E-mail: keeto.sabharwal@pillsburylaw.com

12
Kirke M. Hasson (CA State Bar No. 061446)
13   Colin T. Kemp (CA State Bar No. 215408)
Four Embarcadero Center, 22nd Floor
14   San Francisco, CA 94111-5998
Telephone: +1 (415) 983-1000
15   Facsimile: +1 (415) 983-1200
E-mail: kirke.hasson@pillsburylaw.com
16   E-mail: colin.kemp@pillsburylaw.com

17
David N. Patariu (CA State Bar No. 270708)
18   401 Congress Avenue, Suite 1700
Austin, Texas 78701-3797
19   Telephone: +1 (512) 580-9600
Facsimile: +1 (512) 270-7812
20   david.patariu@pillsburylaw.com

21
Attorneys for Plaintiff, Space Data Corporation
22

23

24

25

26

27

28

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*,   CASE NO.: 16-3260
PATENT INFRINGEMENT